

G. M. MORRIS.

LUBRICATOR FOR CAR-AXLE JOURNALS.

No. 171,690.

Patented Jan. 4, 1876.

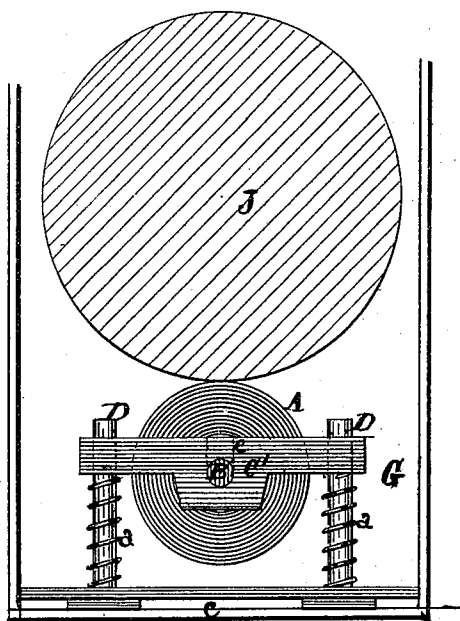


Fig. 1.

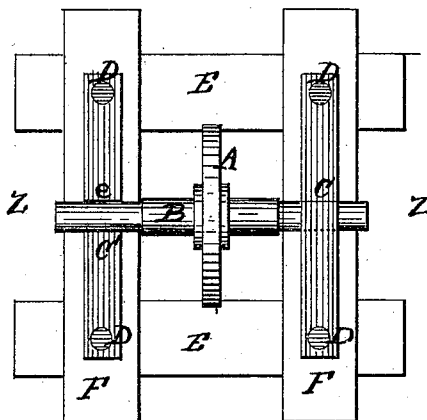


Fig. 2.

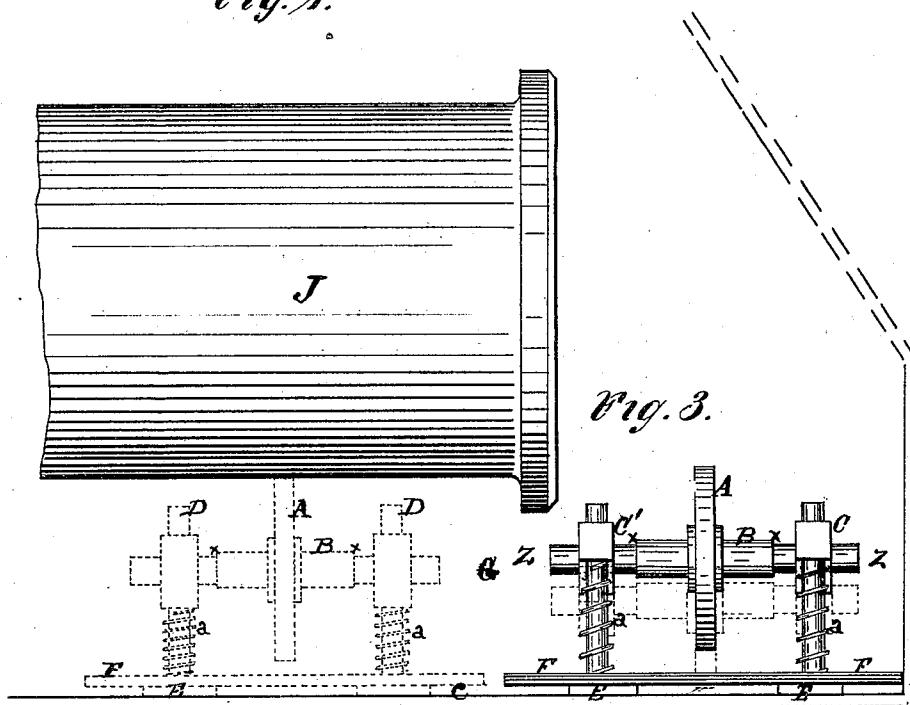


Fig. 3.

Witnesses.
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UNITED STATES PATENT OFFICE.

GEORGE M. MORRIS, OF COHOES, ASSIGNOR OF TWO-THIRDS HIS RIGHT TO
PETER D. NIVER, OF SAME PLACE, AND PETER HOGAN, OF ALBANY,
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IMPROVEMENT IN LUBRICATORS FOR CAR-AXLE JOURNALS.

Specification forming part of Letters Patent No. **171,690**, dated January 4, 1876; application filed
September 13, 1875.

To all whom it may concern:

Be it known that I, GEO. M. MORRIS, of Cohoes, county of Albany, State of New York, have invented an Improvement in Lubricators for Journals; and I do hereby declare that the following is a description thereof, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 represents an end elevation of the device applied to a journal. Fig. 2 is a plan view of the same. Fig. 3 is a side view of the same, illustrating the device and the manner of its application to a journal.

My invention relates to that class of lubricating device employing an oiling-wheel roller, actuated by the rotating movement of a journal of a car-axle, for transferring the oil from a chamber below to the surface of the car-axle journal above; and consists of the several devices and the combination and arrangements of the same, in the manner hereinafter described.

The object of the improvements in this invention is, first, to render the device in its several parts applicable to journals, of car-axes, as they are now found to be inclosed within the style of housings generally employed, and capable of being readily placed in position, so as to be rotated by the journal and transfer oil from the chamber in the housing below to the surface of the journal above in all its conditions of wear; second, to render the oiling-wheel roller capable of being shifted or moved longitudinally in either direction, and simultaneously with the longitudinal movement of the journal of the car-axle, so as to relieve the wheel-roller from all shocks and liability of derangement which may arise from the sudden momentum attending the said longitudinal movement of the journal.

To enable others skilled in the art to make and use my invention, I will proceed to describe it in reference to the drawings, and the letters of reference marked thereon, the same letters indicating like parts.

In the drawings, A represents an oiling-wheel roller. B is the shaft of the same, one

end of which is supported from a full bearing, C, which is made elastic by the spiral springs *a a* coiled around the posts D D, while the other end of the shaft is supported from the notched bearing C', also rendered elastic by spiral springs *a a* coiled around posts D D, as with the full bearing C.

The posts D D D D, one at each corner of the device, pass each through a hole or sleeve made with the ends of the said bearing-piece, and preserve the said bearings in a proper position from shifting, while the springs *a a* give to the said bearings an elastic support, and press the wheel-roller upward and in contact with the journal to be lubricated.

The full bearing C incloses all sides of the journals or ends of the wheel-roller shaft, and holds the same in proper position at all times, whether the notched bearing C' operates to support it or not.

The bearing C', by reason of the notch *e* made in its upper side, is rendered capable of being depressed to any extent permitted by its springs *a a*, without the full bearing C being in the least affected.

The posts D D, which support the bearings from changing their relative horizontal positions, are firmly secured at their lower ends to the strips E E and F F, which operate to form the base of the device. The said strips E and F prevent, by their extension in both their horizontal directions, all shifting of the device, and at the same time permit all sediment to pass below the plane of the uppermost surface of the base.

The ends of the shaft B carrying the wheel-roller A are provided with journals *z z'*, the journal *z* running in full bearing C, and the journal *z'* in the notched bearing C'.

The said journals have their shoulders *x x* set off at a distance from the sides of their respective bearings and toward the ends of the wheel A, while their lengths are each increased to a distance sufficient to preserve their ends in their bearings when the shaft is shifted to throw a shoulder against either bearing.

This improved lubricating device, by its construction and arrangement of parts, as

above described, is rendered capable of being readily applied to the journals of car-axles, inclosed within housings of ordinary construction, without necessitating any alteration whatever in the same.

When it is desired to apply this device to a journal of a car-axle, it is to be introduced into the oil-chamber G of the housing from the usual end opening made in the same for the introduction of the oil, (and waste heretofore employed.) To effect this introduction of the device within the oil-chamber, with the wheel and its attached adjuncts in proper relative position, so that all binding of the journals of the wheel-roller shaft may be prevented, the notched bearing C' is to be first depressed, when the shaft B, with its roller, will be held only by the bearing C. When the said notched bearing has been entered below the lower surface of the journal of the car-axle, the bearing C is to be depressed, when it will carry down the wheel-roller, so as to permit of its passage to a point below the end of the journal. The device in the while having been introduced through the opening sidewise and gradually turned, the notched bearing and the wheel being depressed and entered beneath the end of the journal, the device may then be readily dropped down to the bottom of the oil-chamber, with one end of the base bearing against the front wall of the said chamber, and the opposite end against the rear wall, and its sides against the side walls of the same, and the loose end of the wheel-shaft will be found to be carried down into the notched bearing in a proper manner by the full bearing, so that the shaft will be free to revolve without the least binding of its journal ends in their respective bearings.

It is readily seen that by this construction and arrangement of parts the device may be applied to operate with journals of car-axles within housings constructed for the employment of cotton waste with oil, and that all necessity for a reconstruction or alteration of the housing is obviated.

One of the advantageous results arising from the employment of a notched bearing for one of the journals ends of the roller-shaft, and a full bearing for the other end apparent, is the notched bearing permits of being separately depressed for its proper insertion within the limited space of the housing front of the end of the journal, while the full bearing is made to retain the wheel and its shaft in proper relative position, and be subsequently depressed to carry the wheel-roller and its shaft down, and permit of their entrance through the same limited space, and when the device is entered properly within the oil-chamber, guide the opposite journal end of the shaft into the notched bearing in a condition free from all liability of binding,

which advantageous results cannot be secured when the wheel-roller is supported by full bearings, which require to be evenly and uniformly depressed, or when the wheel-roller is supported from two notched rollers, in which the roller is not sustained or guided in a positive manner by one of the bearings retaining the roller in a proper relative position.

Another advantageous result is that the oiling-roller, possessing the property of a wheel, with a comparatively narrow face, is capable of operating with the axle-journal in all its conditions of wear of surface, whether they be that of a straight line of surface, or a surface of greater or less concavity, which cannot be had with rollers possessing the properties of a cylinder, as have been heretofore employed, in which the straight line of the cylindrical roller would always remain the same, while the original straight line of surface of the axle-journal to be lubricated would gradually transform to a concave line by wear, when such cylindrical rollers would fail to operate.

A third advantageous result secured is that the wheel-roller is permitted to move simultaneously in either direction with the axle-journal when the same is moved longitudinally under the usual momentum incidental to the turning of curves or lateral swaying of the car, which cannot be had when the roller-shaft has the shoulders of its journals set against the bearings, as heretofore practiced.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a lubricating device for application to a journal of a car-axle within the housing of the same, the combination, with the lubricating wheel-roller and its shaft, of the full bearing C and notched bearing C', both supported in an elastic manner, and the latter capable of being separately and previously depressed in relation to the former, and the former capable of retaining the wheel and its shaft in position, substantially as and for the purpose set forth.

2. The combination, with the full bearing C, supported in an elastic manner from base E F, and notched bearing C', also supported in an elastic manner from said base, and capable of being depressed previous to the bearing C, which may itself be subsequently depressed, of the shaft B, carrying the wheel-shaped roller A, having shoulders *x x* at a point about midway between said wheel-roller and bearings C C', and journals *z z'* extended from said shoulders outward past the outer sides of said bearing for operations, substantially as set forth.

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Witnesses:

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